

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) A nucleic-acid amplifying apparatus comprising:
a flow passage, through which a reaction fluid containing a sample containing a nucleic acid and a reagent flows, said flow passage including,
a flow passage branch portion, at which the flow passage branches into a plurality of branch flow passages,
a junction portion, at which the plurality of branch flow passages join, and
a joined flow passage, through which the reaction fluid as joined is conducted;
a first heating mechanism having a plurality of first set temperature zones of 95°C provided on the branch flow passages; and
a second heating mechanism provided on the branch flow passages, said second heating mechanism including ~~a plurality of eight~~ second set temperature zones forming a temperature gradient ranging from 55°C to 62°C with each of the second set temperature zones being sequentially set at intervals of 1°C;
wherein the branch flow passages are arranged so as to repeatedly pass through the first and second set temperature zones.
2. (Cancelled).
3. (Currently Amended) A nucleic-acid amplifying apparatus comprising:
a flow passage, through which a reaction fluid containing a sample containing a nucleic acid and a reagent flows, said flow passage including,

a first branch portion, at which the flow passage branches,
first branch flow passages branching off the first branch portion,
a first junction portion, at which the first branch flow passages join together,
a second branch portion, at which a flow passage joined at the first junction
portion branches again,

second branch flow passages branching off the second branch portion, and
a second junction portion, at which the second branch flow passages join
together; and

a first heating mechanism having a plurality of first set temperature zones of
95°C provided on the first branch flow passages; and

a second heating mechanism provided on the second branch flow passages,
said second heating mechanism including ~~a plurality of eight~~ second set temperature
zones forming a temperature gradient ranging from 55°C to 62°C with each of the
second set temperature zones being sequentially set at intervals of 1°C.

4. (Original) A nucleic-acid amplifying apparatus according to claim 3, wherein
the second branch flow passages are formed to be longer than the first branch flow
passages.

5. (Previously Presented) A nucleic-acid amplifying apparatus according to
claim 3, wherein the reaction fluid flowing through the first branch flow passages and
the second branch flow passages is repeatedly maintained at the first and second
set temperature zones, and the number of times, at which the reaction fluid flowing
through the second branch flow passages is subjected to temperature change, is
made larger than the number of times, at which the reaction fluid flowing through the

first branch flow passages is subjected to temperature change.

6. (Original) A nucleic-acid amplifying apparatus according to claim 3, further comprising a flow passage or passages provided between the first branch flow passages and the second branch flow passages to allow a reagent to be supplied.

7. (Previously Presented) A nucleic-acid amplifying apparatus according to claim 1, further comprising a first branch flow passage and a second branch flow passage that are communicated to the junction portion,
wherein the first heating mechanism that puts the first branch flow passage, and the second heating mechanism is provided on the second branch flow passage.

8. (Currently Amended) A chemical analysis apparatus comprising:
a flow passage, through which a reaction fluid containing a sample containing a nucleic acid and a reagent being mixed with the sample flows, said flow passage including,

a flow passage branch portion, at which the flow passage branches into a plurality of branch flow passages,

a junction portion, at which the plurality of branch flow passages join together,

a joined flow passage, through which the reaction fluid as joined is conducted,

and

a detection part that detects the nucleic acid in the reaction fluid conducted to the joined flow passage; and

a first heating mechanism having a plurality of first set temperature zones of 95°C provided on the branch flow passages; and

a second heating mechanism provided on the branch flow passages, said second heating mechanism including ~~a plurality of~~eight second set temperature zones forming a temperature gradient ranging from 55°C to 62°C with each of the second set temperature zones being sequentially set at intervals of 1°C;

wherein the heating mechanism is formed such that the branch flow passages repeatedly pass through the plurality of set temperature zones.

9. (Currently Amended) A nucleic-acid amplifying method comprising:

a branch step for branching a reaction fluid containing a sample containing a nucleic acid and a reagent being mixed with the sample;

a repeated heating and cooling step for repeatedly heating and cooling the branched reaction fluid parts between a first set temperature and a second set temperature; and

a junction step for joining the plurality of branched reaction fluid parts that have been repeatedly heated and cooled;

wherein the first set temperature is 95°C, and the second set temperature is provided as a ~~range of~~temperature gradient ranging from 55°C to 62°C with eight temperature zones that are sequentially set at intervals of 1°C.

10. (Currently Amended) A nucleic-acid amplifying method comprising:

a first branch step for branching a reaction fluid containing a sample containing a nucleic acid and a reagent being mixed with the sample;

a first repeated heating and cooling step for repeatedly heating and cooling the branched reaction fluid parts between a first set temperature and a second set temperature, wherein the first set temperature is 95°C, and the second set

temperature is provided as a ~~range of~~temperature gradient ranging from 55°C to 62°C with eight temperature zones that are sequentially set at intervals of 1°C,

a first joining step for joining the plurality of branched reaction fluid parts that have been repeatedly heated and cooled;

a second branch step for branching the joined reaction fluid again;

a second repeated heating and cooling step for repeatedly heating and cooling the reaction fluid parts, that have branched in the second branch step, between the first set temperature and a third set temperature of 55°C; and

a second joining step for joining a plurality of the branched reaction fluid parts that have been repeatedly heated and cooled in the second repeated heating and cooling step.

11. (Original) A nucleic-acid amplifying method according to claim 10, wherein the number of times, at which heating is repeated in the second repeated heating and cooling step, is made larger than the number of times, at which heating is repeated in the first repeated heating and cooling step.